ABSTRACT OF THE DISCLOSURE

A railcar-moving vehicle comprises a modified semi tractor with retractable railroad wheels and an air bag suspension system. A load-shifting device is pivotally disposed rearward on the vehicle frame, and includes a lifting coupler configured to couple to a coupler of a railcar. A coupler airbag is disposed below the lifting coupler, and configured to inflate with compressed air concurrently with the air bag suspension system, so as to simultaneously apply upward force upon the coupler of the railcar and downward force on the drive wheels, which directly contact the rails, so as to transfer a portion of the weight of the railcar to the drive wheels of the railcar-moving vehicle. The railcar-moving vehicle is capable of extended operation at highway speeds both on and off rails.